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PATENT

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PEPTIDE NUCLEIC ACID CONJUGATES

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of United States application serial number 08/108,591, filed November 27, 1993 that, in turn, is a national phase application of PCT application EP/01219, filed May 22, 1992, claiming priority to Danish Patent Applications: No. 986/91, filed May 24, 1991, No. 987/91, filed May 24, 1991, and No. 510/92, filed April 15, 1992. In addition, this application is a continuation-in-part to United States application serial number 08/088,658, filed July 2, 1993, United States application serial number 08/088,661, filed July 2, 1993 and United States application serial number 08/275,951, filed July 15, 1994.

The contents of the foregoing patent applications are incorporated herein by reference.

FIELD OF THE INVENTION

This invention is directed to compounds that are not polynucleotides yet which bind to complementary DNA and RNA strands more strongly than the corresponding DNA. In particular, the invention concerns peptide nucleic acids (PNAs) which are functionalized to include covalently bound conjugates.

BACKGROUND OF THE INVENTION

Oligonucleotides and their analogs have been developed and used in molecular biology in certain procedures as probes, primers, linkers, adapters, and gene fragments. Modifications to oligonucleotides used in these procedures include labeling with non isotopic labels, e.g. fluorescein, biotin, digoxigenin, alkaline phosphatase, or other reporter molecules. Other modifications have been made to the ribose phosphate backbone to